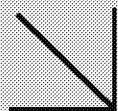




Calscience

**WORK ORDER NUMBER: 14-08-0423***The difference is service*

AIR | SOIL | WATER | MARINE CHEMISTRY

**Analytical Report For****Client:** CH2M Hill**Client Project Name:** Dynegy SBPP / 482070.01.03**Attention:** James Laws6 Hutton Centre Drive, Suite 700  
Santa Ana, CA 92707-5735

Approved for release on 08/11/2014 by:  
Virendra Patel  
Project Manager

ResultLink ▶

Email your PM ▶



Eurofins Calscience, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.

# Contents

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Client Project Name: Dynegy SBPP / 482070.01.03  
 Work Order Number: 14-08-0423

1	Work Order Narrative. . . . .	3
2	Sample Summary. . . . .	4
3	Client Sample Data. . . . .	5
	3.1 EPA 8082 PCB Aroclors (Solid). . . . .	5
4	Quality Control Sample Data. . . . .	6
	4.1 MS/MSD. . . . .	6
	4.2 LCS/LCSD. . . . .	7
5	Sample Analysis Summary. . . . .	8
6	Glossary of Terms and Qualifiers. . . . .	9
7	Chain-of-Custody/Sample Receipt Form. . . . .	10

Work Order: 14-08-0423

Page 1 of 1

**Condition Upon Receipt:**

Samples were received under Chain-of-Custody (COC) on 08/06/14. They were assigned to Work Order 14-08-0423.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

**Holding Times:**

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of  $\leq 15$  minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

**Quality Control:**

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

**Additional Comments:**

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

New York NELAP air certification does not certify for all reported methods and analytes, reference the accredited items here: [http://www.calscience.com/PDF/New\\_York.pdf](http://www.calscience.com/PDF/New_York.pdf)

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

**Subcontractor Information:**

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

**Sample Summary**

---

Client:	CH2M Hill	Work Order:	14-08-0423
	6 Hutton Centre Drive, Suite 700	Project Name:	Dynegy SBPP / 482070.01.03
	Santa Ana, CA 92707-5735	PO Number:	482070.1000
		Date/Time Received:	08/06/14 19:40
		Number of Containers:	1

---

Attn: James Laws

---

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
SBPP-147-D-080514	14-08-0423-1	08/06/14 14:50	1	Concrete

## Analytical Report

CH2M Hill  
6 Hutton Centre Drive, Suite 700  
Santa Ana, CA 92707-5735

Date Received: 08/06/14  
Work Order: 14-08-0423  
Preparation: EPA 3545  
Method: EPA 8082  
Units: ug/kg

Project: Dynege SBPP / 482070.01.03

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SBPP-147-D-080514	14-08-0423-1-A	08/06/14 14:50	Concrete	GC 58	08/07/14	08/09/14 20:18	140807L19

Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	94	24-168	
2,4,5,6-Tetrachloro-m-Xylene	88	25-145	

Method Blank	099-12-535-2795	N/A	Solid	GC 58	08/07/14	08/09/14 18:12	140807L19
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Parameter	Result	RL	DF	Qualifiers
Aroclor-1016	ND	50	1.00	
Aroclor-1221	ND	50	1.00	
Aroclor-1232	ND	50	1.00	
Aroclor-1242	ND	50	1.00	
Aroclor-1248	ND	50	1.00	
Aroclor-1254	ND	50	1.00	
Aroclor-1260	ND	50	1.00	
Aroclor-1262	ND	50	1.00	

Surrogate	Rec. (%)	Control Limits	Qualifiers
Decachlorobiphenyl	114	24-168	
2,4,5,6-Tetrachloro-m-Xylene	102	25-145	

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



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## Quality Control - Spike/Spike Duplicate

CH2M Hill  
6 Hutton Centre Drive, Suite 700  
Santa Ana, CA 92707-5735

Date Received: 08/06/14  
Work Order: 14-08-0423  
Preparation: EPA 3545  
Method: EPA 8082

Project: Dynegy SBPP / 482070.01.03

Page 1 of 1

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
14-08-0330-1	Sample	Solid	GC 58	08/07/14	08/09/14 19:06	140807S19
14-08-0330-1	Matrix Spike	Solid	GC 58	08/07/14	08/09/14 18:31	140807S19
14-08-0330-1	Matrix Spike Duplicate	Solid	GC 58	08/07/14	08/09/14 18:48	140807S19

Parameter	Sample Conc.	Spike Added	MS Conc.	MS %Rec.	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
Aroclor-1016	ND	100.0	145.1	145	128.7	129	50-135	12	0-20	3
Aroclor-1260	ND	100.0	90.10	90	75.17	75	50-135	18	0-25	

  
Return to Contents

RPD: Relative Percent Difference. CL: Control Limits

## Quality Control - LCS

CH2M Hill  
6 Hutton Centre Drive, Suite 700  
Santa Ana, CA 92707-5735

Date Received: 08/06/14  
Work Order: 14-08-0423  
Preparation: EPA 3545  
Method: EPA 8082

Project: Dynegy SBPP / 482070.01.03

Page 1 of 1

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-535-2795	LCS	Solid	GC 58	08/07/14	08/09/14 17:54	140807L19
<u>Parameter</u>		<u>Spike Added</u>	<u>Conc. Recovered</u>	<u>LCS %Rec.</u>	<u>%Rec. CL</u>	<u>Qualifiers</u>
Aroclor-1016		100.0	98.12	98	50-135	
Aroclor-1260		100.0	93.50	93	50-135	

## Sample Analysis Summary Report

Work Order: 14-08-0423

Page 1 of 1

<u>Method</u>	<u>Extraction</u>	<u>Chemist ID</u>	<u>Instrument</u>	<u>Analytical Location</u>
EPA 8082	EPA 3545	669	GC 58	1

  
Return to Contents

Location 1: 7440 Lincoln Way, Garden Grove, CA 92841



## Glossary of Terms and Qualifiers

Work Order: 14-08-0423

Page 1 of 1

<u>Qualifiers</u>	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of ≤ 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.



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WORK ORDER #: 14-08-0423

# SAMPLE RECEIPT FORM

Cooler 1 of 1

CLIENT: CH2MHILL

DATE: 08/06/14

TEMPERATURE: Thermometer ID: SC1 (Criteria: 0.0 °C – 6.0 °C, not frozen except sediment/tissue)

Temperature 1.8 °C - 0.3 °C (CF) = 1.5 °C ☒ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: )

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.

☐ Received at ambient temperature, placed on ice for transport by Courier.

Ambient Temperature: ☐ Air ☐ Filter

Checked by: 671

## CUSTODY SEALS INTACT:

☐ Cooler

☐
☐ No (Not Intact)

☒ Not Present

☐ N/A

Checked by: 671

☒ Sample

☐
☐ No (Not Intact)

☒ Not Present

Checked by: 778

## SAMPLE CONDITION:

Yes

No

N/A

Chain-Of-Custody (COC) document(s) received with samples..... ☒
☐
☐

COC document(s) received complete..... ☒
☐
☐
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.

☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.

Sampler's name indicated on COC..... ☒
☐
☐

Sample container label(s) consistent with COC..... ☒
☐
☐

Sample container(s) intact and good condition..... ☒
☐
☐

Proper containers and sufficient volume for analyses requested..... ☒
☐
☐

Analyses received within holding time..... ☒
☐
☐

Aqueous samples received within 15-minute holding time

☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfides ☐ Dissolved Oxygen..... ☐
☐
☒

Proper preservation noted on COC or sample container..... ☐
☐
☒
☐ Unpreserved vials received for Volatiles analysis

Volatile analysis container(s) free of headspace..... ☐
☐
☒

Tedlar bag(s) free of condensation..... ☐
☐
☒

## CONTAINER TYPE:

Solid: ☐ 4ozCGJ ☒ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve ( ) ☐ EnCores® ☐ TerraCores® ☐

Aqueous: ☐ VOA ☐ VOA<sub>h</sub> ☐ VOA<sub>na2</sub> ☐ 125AGB ☐ 125AGB<sub>h</sub> ☐ 125AGB<sub>p</sub> ☐ 1AGB ☐ 1AGB<sub>na2</sub> ☐ 1AGB<sub>s</sub>
☐ 500AGB ☐ 500AGJ ☐ 500AGJ<sub>s</sub> ☐ 250AGB ☐ 250CGB ☐ 250CGB<sub>s</sub> ☐ 1PB ☐ 1PB<sub>na</sub> ☐ 500PB

☐ 250PB ☐ 250PB<sub>n</sub> ☐ 125PB ☐ 125PB<sub>znna</sub> ☐ 100PJ ☐ 100PJ<sub>na2</sub> ☐ ☐ ☐

Air: ☐ Tedlar® ☐ Canister Other: ☐ Trip Blank Lot#: Labeled/Checked by: 778

Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope

Reviewed by: 681

Preservative: h: HCL n: HNO<sub>3</sub> na<sub>2</sub>: Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> na: NaOH p: H<sub>3</sub>PO<sub>4</sub> s: H<sub>2</sub>SO<sub>4</sub> u: Ultra-pure znna: ZnAc<sub>2</sub>+NaOH f: Filtered

Scanned by: 681

\* Seal on bag